

Amendment and Response under 37 C.F.R. 1.116

Applicant: Kurt Thiessen et al.

Serial No.: 10/607,892

Filed: June 27, 2003

Docket No.: 100110947-1

Title: SYSTEM AND METHOD OF PRINTING WITHIN CIRCULAR AREA**IN THE CLAIMS**

Please cancel claim 47 without prejudice.

Please amend claim 48 as follows:

1. (Previously Presented) A method of printing within a circular area of a media, the method comprising:
 positioning a printhead including at least one column of nozzles above the circular area of the media, including orienting the at least one column of nozzles substantially perpendicular to a radius of the circular area extended below the printhead;
 rotating the media relative to the printhead; and
 printing at least one arcuate print pattern within the circular area of the media with the printhead while rotating the media, including printing substantially perpendicular to the radius of the circular area of the media.
2. (Original) The method of claim 1, wherein positioning the printhead includes orienting the at least one column of nozzles substantially parallel to a tangent of the circular area at the radius of the circular area.
3. (Original) The method of claim 1, wherein printing the at least one arcuate print pattern includes printing the at least one arcuate print pattern along an arc centered about a center of the circular area of the media.
4. (Cancelled)
5. (Withdrawn) The method of claim 1, wherein printing the at least one arcuate print pattern includes printing concentric print patterns within the circular area of the media.
6. (Withdrawn) The method of claim 1, wherein printing the at least one arcuate print pattern includes printing a spiral print pattern within the circular area of the media.

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7. (Original) The method of claim 1, wherein the at least one column of nozzles includes a first column of nozzles and a second column of nozzles spaced from and oriented substantially parallel to the first column of nozzles, and wherein printing the at least one arcuate print pattern includes printing a first arcuate print pattern with the first column of nozzles and a second arcuate print pattern with the second column of nozzles.
8. (Original) The method of claim 1, further comprising:
moving the printhead and the media relative to each other in a direction substantially parallel to the radius of the circular area of the media.
9. (Original) The method of claim 8, wherein moving the printhead and the media relative to each other includes moving the printhead along the radius of the circular area of the media.
10. (Original) The method of claim 1, wherein the circular area of the media includes an annular area of the media.
11. (Original) The method of claim 1, wherein the media includes an optical data storage disk.
12. (Original) The method of claim 1, wherein the media includes a label for an optical data storage disk.
13. (Previously Presented) A system for printing within a circular area of a media, the system comprising:
a printhead including at least one column of nozzles, the at least one column of nozzles adapted to be oriented substantially perpendicular to a radius of the circular area extended below the printhead; and
an assembly adapted to rotate the media relative to the printhead,

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wherein the printhead is adapted to print substantially perpendicular to the radius of the circular area of the media and print at least one arcuate print pattern within the circular area of the media as the assembly rotates the media relative to the printhead.

14. (Original) The system of claim 13, wherein the at least one column of nozzles are adapted to be oriented substantially parallel to a tangent of the circular area at the radius of the circular area.

15. (Original) The system of claim 13, wherein the at least one arcuate print pattern follows an arc centered about a center of the circular area of the media.

16. (Cancelled)

17. (Withdrawn) The system of claim 13, wherein the at least one arcuate print pattern includes concentric print patterns.

18. (Withdrawn) The system of claim 13, wherein the at least one arcuate print pattern includes a spiral print pattern.

19. (Original) The system of claim 13, wherein the at least one column of nozzles includes a first column of nozzles and a second column of nozzles spaced from and oriented substantially parallel to the first column of nozzles, and wherein the printhead is adapted to print a first arcuate print pattern with the first column of nozzles and a second arcuate print pattern with the second column of nozzles.

20. (Original) The system of claim 13, wherein the printhead is adapted to move relative to the media in a direction substantially parallel to the radius of the circular area of the media.

21. (Original) The system of claim 13, wherein the printhead is adapted to move relative to the media along the radius of the circular area of the media.

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22. (Original) The system of claim 13, wherein the circular area of the media includes an annular area of the media.
23. (Original) The system of claim 13, wherein the media includes an optical data storage disk.
24. (Original) The system of claim 13, wherein the media includes a label for an optical data storage disk.
25. (Previously Presented) A method of printing on and recording to an optical data storage disk, the method comprising:
- positioning a printhead adjacent a first side of the optical data storage disk, including orienting a column of nozzles of the printhead substantially perpendicular to a radius of the optical data storage disk extended below the printhead;
 - positioning a recording head adjacent a second side of the optical data storage disk opposite the first side thereof;
 - rotating the optical data storage disk relative to the printhead and the recording head;
 - printing at least one arcuate print pattern on the optical data storage disk with the printhead while rotating the optical data storage disk, including printing substantially perpendicular to the radius of the optical data storage disk; and
 - recording to the optical data storage disk with the recording head while rotating the optical data storage disk.
26. (Original) The method of claim 25, wherein positioning the printhead includes orienting the column of nozzles substantially parallel to a tangent of the optical data storage disk at the radius of the optical data storage disk.
27. (Original) The method of claim 25, wherein printing the at least one arcuate print pattern includes printing the at least one arcuate print pattern along an arc centered about a center of the optical data storage disk.

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28. (Cancelled)

29. (Withdrawn) The method of claim 25, wherein printing the at least one arcuate print pattern includes printing concentric print patterns on the optical data storage disk.

30. (Withdrawn) The method of claim 25, wherein printing the at least one arcuate print pattern includes printing a spiral print pattern on the optical data storage disk.

31. (Original) The method of claim 25, wherein printing on the optical data storage disk and recording to the optical data storage disk includes simultaneously printing on the optical data storage disk and recording to the optical data storage disk.

32. (Original) The method of claim 25, wherein printing on the optical data storage disk and recording to the optical data storage disk includes printing on the optical data storage disk and recording to the optical data storage disk while rotating the optical data storage disk at a predetermined speed.

33. (Original) The method of claim 25, further comprising:
moving the printhead and the optical data storage disk relative to each other and the recording head and the optical data storage disk relative to each other in a direction substantially parallel to the radius of the optical data storage disk.

34. (Original) The method of claim 33, wherein moving the printhead and the optical data storage disk relative to each other includes moving the printhead along the radius of the optical data storage disk relative to the optical data storage disk.

35. (Original) The method of claim 33, wherein moving the printhead and the optical data storage disk relative to each other and the recording head and the optical data storage disk relative to each other includes moving the printhead relative to the optical data storage disk at a predetermined speed and moving the recording head relative to the optical data storage disk at the predetermined speed.

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36. (Previously Presented) A system for printing on and recording to an optical data storage disk, the system comprising:

a printhead adapted to be positioned adjacent a first side of the optical data storage disk and including at least one column of nozzles, the at least one column of nozzles adapted to be oriented substantially perpendicular to a radius of the optical data storage disk extended below the printhead;

a recording head adapted to be positioned adjacent a second side of the optical data storage disk opposite the first side thereof; and

an assembly adapted to rotate the optical data storage disk relative to the printhead and the recording head,

wherein the printhead is adapted to print substantially perpendicular to the radius of the optical data storage disk and print at least one arcuate print pattern on the optical data storage disk as the assembly rotates the optical data storage disk relative to the printhead, and

wherein the recording head is adapted to record to the optical data storage disk as the assembly rotates the optical data storage disk relative to the recording head.

37. (Original) The system of claim 36, wherein the at least one column of nozzles are adapted to be oriented substantially parallel to a tangent of the optical data storage disk at the radius of the optical data storage disk.

38. (Original) The system of claim 36, wherein the at least one arcuate print pattern follows an arc centered about a center of the optical data storage disk.

39. (Cancelled)

40. (Withdrawn) The system of claim 36, wherein the at least one arcuate print pattern includes concentric print patterns.

41. (Withdrawn) The system of claim 36, wherein the at least one arcuate print pattern includes a spiral print pattern.

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42. (Original) The system of claim 36, wherein the printhead and the recording head are adapted to simultaneously print on and record to the optical data storage disk.

43. (Original) The system of claim 36, wherein the printhead is adapted to print on the optical data storage disk and the recording head is adapted to record to the optical data storage disk as the assembly rotates the optical data storage disk at a predetermined speed.

44. (Original) The system of claim 36, wherein the printhead and the recording head are each adapted to move relative to the optical data storage disk in a direction substantially parallel to the radius of the optical data storage disk.

45. (Original) The system of claim 36, wherein the printhead is adapted to move relative to the optical data storage disk along the radius of the optical data storage disk.

46. (Original) The system of claim 36, wherein the printhead and the recording head are each adapted to move relative to the optical data storage disk at a predetermined speed.

47. (Cancelled)

48. (Currently Amended) ~~The system of claim 47~~ A system for processing an optical data storage disk, the system comprising:

means for rotating the optical data storage disk; and

means for simultaneously printing on the optical data storage disk from a first side of the optical data storage disk and recording to the optical data storage disk from a second side of the optical data storage disk opposite the first side as the optical data storage disk rotates,

wherein means for simultaneously printing on and recording to the optical data storage disk includes a printhead positioned on the first side of the optical data storage disk, wherein the printhead includes at least one column of nozzles oriented substantially perpendicular to the a radius of the optical data storage disk extended below the printhead,

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and wherein the printhead is adapted to print substantially perpendicular to the radius of the optical data storage disk.

49. (Original) The system of claim 48, wherein means for simultaneously printing on and recording to the optical data storage disk further includes a recording head positioned on the second side of the optical data storage disk.